Software for Modeling Delivery and Penetration of Antibody Conjugates

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Keywords: Research Tool, software, drug design, anti-cancer modeling, tumor delivery, dosing, tumor penetration.

Summary:
The National Cancer Institute (NCI) Laboratory of Molecular Biology is seeking parties interested in collaborative research to co-develop targeted delivery of anti-cancer agents in solid tumors.

Technology:
Available for co-development and licensing is software for modeling the permeability and concentration of intravenously administered antibody anti-cancer agent conjugates in solid tumors. The models can be used to determine optimal dosing regimen of a therapeutic in a particular cancer type. Thirty factors that affect delivery rates and efficiencies are analyzed as variables in generating the models.

Potential Commercial Applications include drug design, combination therapy, personalized medicine

Competitive Advantages include accurate permeability modeling of anti-cancer therapeutics.

Research Stage: Discovery.

Patent Status: Software. Patent protection is not being pursued for this technology.

Publications:
1. Fujimori K, et al. A modeling analysis of monoclonal antibody percolation through tumors: a binding-site barrier. J Nucl Med. 1990 Jul;31(7):1191-1198. [PMID 2362198]
2. Jain RK. Delivery of molecular and cellular medicine to solid tumors. Adv Drug Deliv Rev. 2001 Mar 1;46(1-3):149-168. [PMID 11259838]
3. Thurber GM, et al. Antibody tumor penetration: transport opposed by systemic and antigen-mediated clearance. Adv Drug Deliv Rev. 2008 Sep;60(12):1421-1434. [PMID 18541331]
4. Li Y, et al. Adv Drug Deliv Rev (2011).

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